

AMENDMENTS TO THE CLAIMS

Claims 1-30. (Canceled)

Claim 31. (New) A polishing apparatus comprising:

a substrate holding device configured to hold a substrate on a substrate holding surface so as to allow the substrate to be polished by a polishing surface, said substrate holding device including

- (i) a body,
- (ii) a retainer ring fixed to a lower end of said body for confining an edge of the substrate,
- (iii) an elastic pad having the substrate holding surface, and
- (iv) a support member, in a space defined by said body and said retainer ring, for supporting said elastic pad; and

a substrate relay device configured to deliver the substrate to said substrate holding device and receive the substrate from said substrate holding device, said substrate relay device including

- (i) a substrate placement section having a substrate placement surface on which the substrate is to be placed,
- (ii) a moving mechanism configured to vertically move said substrate placement section, and
- (iii) a fluid port configured to eject a pressurized fluid to a peripheral portion of the substrate, to remove the substrate from said elastic pad, when the substrate is positioned below a lower surface of said retainer ring and is held by said substrate holding device such that the substrate is in contact with said substrate holding surface except for the peripheral portion of the substrate.

Claim 32. (New) The polishing apparatus according to claim 31, wherein said elastic pad is capable of being swelled and said support member is movable relative to

said retainer ring, such that the substrate is to be positioned below the lower surface of said retainer ring and is to be in contact with said substrate holding surface, except for the peripheral portion of the substrate, by virtue of said elastic pad being swollen and said support member having been moved downward relative to said retainer ring.

Claim 33. (New) The polishing apparatus according to claim 32, wherein said substrate holding device further includes

(v) an abutment member attached to said support member, said abutment member having an elastic membrane to be brought into contact with said elastic pad,

(vi) a first pressure chamber defined between said body and said support member,

(vii) a second pressure chamber defined outside of said abutment member between said elastic pad and said support member, and

(viii) a third pressure chamber defined inside of said abutment member,

such that said elastic pad is capable of being swelled by supplying pressurized fluid to said second pressure chamber and said third pressure chamber, and said support member is movable relative to said retainer ring by supplying pressurized fluid to said first pressure chamber.

Claim 34. (New) The polishing apparatus according to claim 33, wherein said first pressure chamber, said second pressure chamber, and said third pressure chamber are independently connectable to a fluid supply source and a vacuum source.

Claim 35. (New) The polishing apparatus according to claim 34, wherein said substrate relay device further includes a cover provided around said fluid port to prevent the pressurized fluid from scattering around said fluid port.

Claim 36. (New) The polishing apparatus according to claim 34, wherein said elastic pad has an opening connectable to at least one of the fluid supply source and the vacuum source.

Claim 37. (New) The polishing apparatus according to claim 34, wherein said substrate holding device has a passage configured to supply a pressurized fluid from said substrate holding surface to the substrate when the substrate is held by said substrate holding device.

Claim 38. (New) The polishing apparatus according to claim 33, wherein said substrate relay device further includes a cover provided around said fluid port to prevent the pressurized fluid from scattering around said fluid port.

Claim 39. (New) The polishing apparatus according to claim 33, wherein said elastic pad has an opening connectable to at least one of a fluid supply source and a vacuum source.

Claim 40. (New) The polishing apparatus according to claim 33, wherein said substrate holding device has a passage configured to supply a pressurized fluid from said substrate holding surface to the substrate when the substrate is held by said substrate holding device.

Claim 41. (New) The polishing apparatus according to claim 32, wherein said substrate relay device further includes a cover provided around said fluid port to prevent the pressurized fluid from scattering around said fluid port.

Claim 42. (New) The polishing apparatus according to claim 32, wherein said elastic pad has an opening connectable to at least one of a fluid supply source and a vacuum source.

Claim 43. (New) The polishing apparatus according to claim 42, wherein

said substrate holding device further includes

- (v) an abutment member attached to said support member, said abutment member having an elastic membrane to be brought into contact with said elastic pad,
 - (vi) a first pressure chamber defined between said body and said support member,
 - (vii) a second pressure chamber defined outside of said abutment member between said elastic pad and said support member, and
 - (viii) a third pressure chamber defined inside of said abutment member,
- with said first pressure chamber, said second pressure chamber, and said third pressure chamber being independently connectable to the at least one of a fluid supply source and a vacuum source.

Claim 44. (New) The polishing apparatus according to claim 32, wherein said substrate holding device has a passage configured to supply a pressurized fluid from said substrate holding surface to the substrate when the substrate is held by said substrate holding device.

Claim 45. (New) The polishing apparatus according to claim 31, wherein said substrate relay device further includes a cover provided around said fluid port to prevent the pressurized fluid from scattering around said fluid port.

Claim 46. (New) The polishing apparatus according to claim 45, wherein said elastic pad has an opening connectable to at least one of a fluid supply source and a vacuum source.

Claim 47. (New) The polishing apparatus according to claim 46, wherein said substrate holding device further includes

- (v) an abutment member attached to said support member, said abutment member having an elastic membrane to be brought into contact with said elastic pad,

(vi) a first pressure chamber defined between said body and said support member,
(vii) a second pressure chamber defined outside of said abutment member between said elastic pad and said support member, and
(viii) a third pressure chamber defined inside of said abutment member,
with said first pressure chamber, said second pressure chamber, and said third pressure chamber being independently connectable to the at least one of a fluid supply source and a vacuum source.

Claim 48. (New) The polishing apparatus according to claim 45, wherein said substrate holding device has a passage configured to supply a pressurized fluid from said substrate holding surface to the substrate when the substrate is held by said substrate holding device.

Claim 49. (New) The polishing apparatus according to claim 31, wherein said elastic pad has an opening connectable to at least one of a fluid supply source and a vacuum source.

Claim 50. (New) The polishing apparatus according to claim 49, wherein said substrate holding device further includes
(v) an abutment member attached to said support member, said abutment member having an elastic membrane to be brought into contact with said elastic pad,
(vi) a first pressure chamber defined between said body and said support member,
(vii) a second pressure chamber defined outside of said abutment member between said elastic pad and said support member, and
(viii) a third pressure chamber defined inside of said abutment member,
with said first pressure chamber, said second pressure chamber, and said third pressure chamber being independently connectable to the at least one of a fluid supply source and a vacuum source.

Claim 51. (New) The polishing apparatus according to claim 31, wherein
said substrate holding device has a passage configured to supply a pressurized fluid from
said substrate holding surface to the substrate when the substrate is held by said substrate holding
device.